REMARKS

Claims 1 and 7 have been amended. Claims 1-20 remain in the application.

Claims 1-20 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The above amendment of claims 1 and 7 is a restriction of their present scope which clearly does not introduce any new matter. In amended claim 1, the term "(III)" is written before "an epoxy resin or an epoxidised organopolysiloxane" and not after this expression as in pending claim 1, such as to put claim 1 into conformity with claim 7 where the term "(III)" is written before this expression.

Claims 1, 5-7 and 12-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iimuro (U.S. 5,132,349) in view of Masahiko (JP 1-230661 Abstract).

The polymeric composition of amended claim 1 differs from the compositions disclosed in Iimuro, in particular Example 3, or Masahiko, notably by the absence of any catalyst for silanol condensation (this absence is implied by the expression "consisting essentially of" in that claim) and the feature that the bonding between the phenolic groups and the terminal silanol groups is substantially complete.

The process of claim 7 for preparing the polymeric composition of claim 1 differs from the processes disclosed for preparing compositions disclosed in Iimuro, in particular Example 3, or Masahiko, notably in not using any catalyst for silanol condensation and curing the mixture of reactants for a period of time sufficient to substantially complete the reaction between the phenolic groups and the terminal silanol groups.

The objective of the present invention is to provide a polymeric composition with superior heat resistance and improved wet conditions performance (see WO 99/40146, page 2, lines 3-4), and a preparation process thereof.

Starting from the composition of Iimuro or Masahiko there is no hint in the prior art, as to any, let alone both, of the above differentiating features as a means to attain that objective.

As stated in the specification (see page 1 of WO 99/00207, in particular lines 15-20) the present inventors have found by IR analysis that the composition of Iimuro (EP-0 456 490) having the same priority as US 5,132,349) is a "simple mixture of the original phenolic resin and the product of the homoreaction between the silicon resin and itself"..."most of the phenolic groups remaining as such, i.e. as free phenolic groups. Should there be, as the Examiner seems to believe, some reaction between the phenolic groups and the silanol groups, that reaction would thus by no means be complete.

Neither of Iimuro and Masahiko addresses the problem of reducing water absorption.

Claims 2-4, 8-11 and 15-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iimuro in view of Masahiko, and further in view of Kane (U.S. 5,736,619).

Kane et al. describe phenolic compositions with improved impact resistance which comprise "an interpenetrating network of phenolic polymer and siloxane polymer", i.e. a copolymer between a resin containing phenolic groups and an organopolysiloxane resin which may comprise terminal silanol groups. Those compositions do not include the reaction product of an epoxy resin or an epoxidised siloxane. Those compositions are theorized to comprise Si-O groups in the phenolic polymer (see reaction scheme 4, C25 lines 5-24), without however any IR analysis or any other experimental data to support such theory. There is no suggestion that the reaction between the phenolic groups and the terminal silanol groups is substantially complete.

The composition obtained in Example 3 using as catalyst dibutylin diacetate and ethylaminoethanol (see Table 3) is disclosed to show reduced water absorption thanks to "reduced microvoid formation" and possible hydrophobicity (see C21, lines 25-30). There is no disclosure or suggestion that reduced water absorption is linked to a possible reaction between the phenolic groups and the terminal silanol groups. Table 5 shows (see C21 lines 54-66 to C22 lines 1-25) that the composition obtained in Example 5 using as catalyst dibutylin diacetate and ethylaminoethanol has a reduced water absorption, whereas the composition obtained in Example 6 using the same catalyst with a higher proportion ethylaminoethanol has an increased water absorption, compared to the reference composition of Example 4. Kane et al. thus do not provide a teaching sufficient for making polymeric compositions with reduced water absorption, and in particular do not suggest that this interesting feature can be attained without using any catalyst.

Kane et al. thus do not provide any lead to the skilled person as to the above differentiating features.

The polymeric composition for friction elements of the invention, obtained by a process completing the reaction between the phenolic groups and the terminal silanol groups without using any catalyst, surprisingly shows a very low water absorption even after a heat treatment at 350 °C under conditions intended to stimulate overheating by breaking (see in particular the Examples).

The polymeric composition of amended claim 1, or the process for making same of amended claim 7, is thus not obvious to the skilled person, hence patentable. Claims 2-6 and 8-20 depended from amended claims 1 or 7, and are likewise believed to be patentable.

A notice of allowance concerning all remaining claims is respectfully solicited.

Respectfully submitted,

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